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In-vitro manipulation of rubber tree. Towards the production of new varietal types for rubber plantation and tolerance to oxidative stress in latex cells

Montoro, Carron, Lardet, Clément-Demange, Leclercq
Plant Development & Breeding Research Unit, CIRAD, France

Rubber tree breeding and the dissemination of planting material for plantations are closely linked to propagation methods. Since the progress made by switching from multiplication by seed to propagation by budding, the development of new techniques, such as micropropagation, has been awaited. An analysis of genetic diversity sets out to identify the agronomic traits to be incorporated into the best clones. More widely, genetic modification is a tool that will enable the introduction of new agronomic traits that are not available in the genetic diversity being assessed, and also to optimize the metabolism of the best cultivated clones in a targeted manner. In the next twenty years, a whole raft of innovations is set to contribute to better quality planting material through more efficient rubber tree breeding and propagation processes. Among those innovations, the establishment of a new generation of so-called juvenile budwood gardens is a possibility within the next five years. That transfer will be decisive for assessing the degree to which new technologies are taken on board in modern rubber growing. The involvement of growers and agro-industrialists upstream of the innovation process is decisive for the success of such an undertaking, as for the progress made last century.